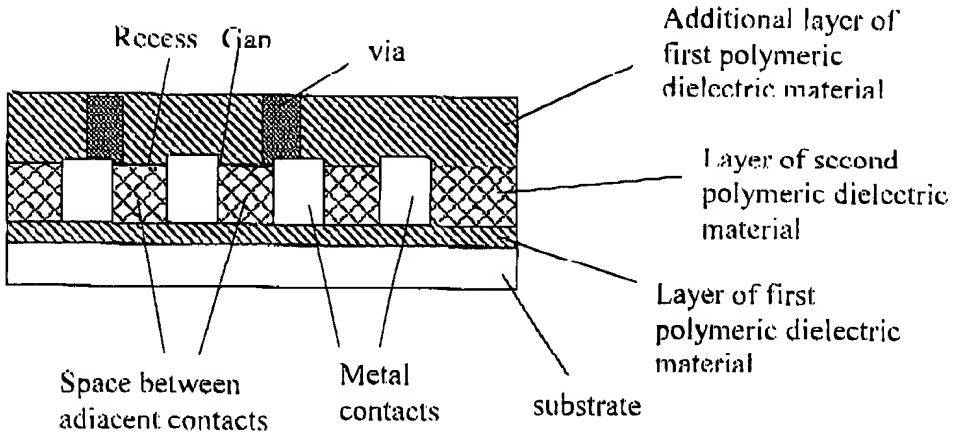
(e) a recess in the filled spaces of the layer of the second polymeric dielectric material extending from a level at a top of the metal contacts a part of the distance toward the substrate;

(f) an additional layer of the first polymeric dielectric material on at least some of the metal contacts and in the recesses on the filled spaces of the second polymeric dielectric material such that there is optionally a gap in at least one of the recesses of the additional layer of first polymeric dielectric material at a side wall of a metal contact;

(g) at least one via extending through the additional layer of the first polymeric dielectric material extending to the top of at least one of the metal contacts and optionally to said gap;

wherein the first dielectric material and the second dielectric material have substantially different etch resistance properties.



Lu et al. relates to the formation of integrated circuit dielectrics. In particular, it describes a surface treatment for silica xerogel dielectrics, for enhancing the adhesion of overlying layers. Lu et al. describe various embodiments for the formation of integrated circuits as underlying layers for their invention. The examiner is of the position that the teachings of Lu et al. anticipate the claimed invention, particularly pointing out Figs 1(g) and 2(b) of Lu et al. Applicants respectfully urge that this is not the case, since Lu et al. fail to teach several key features of the present invention.

Indeed, Lu et al. teach some of the same layers and/or features of the presently claimed invention. However, Applicants respectfully submit that Lu et al. fails to teach the circuit structure as claimed by the present invention. First, as shown in Fig. 1(g), Lu et al. teaches a substrate which includes a shallow *trench* 104 plus *gates* 110 and a gate level *interconnect* 112. Thus, Lu et al. teaches the formation of interconnects *directly on their substrate*. In contrast, the present invention teaches a substrate which is applied with a first polymeric dielectric material, and which first polymeric dielectric material has metal contacts formed *thereon*. There is no teaching of any trenches or vias being formed *into the substrate*, or any metal contacts or interconnects formed *directly on the substrate* of the present invention.

As stated above, the present invention teaches a layer of a *first* polymeric material having spaced apart metal contacts thereon. A layer of a *second* polymeric material is deposited *between* the contacts and *on* the first polymeric material, as shown in the Figures. Recesses in the layer of the second polymeric dielectric material are formed at the top of the filled spaces. The recesses and at least some of the metal contacts are then applied with an *additional layer* of the *first* polymeric dielectric material.

Indeed, Lu et al. teaches the formation of interconnects 130 on a dielectric layer 120, as shown in Fig. 1(g). Lu et al. then spin-coats an oxide liner 140 onto the interconnects and the top surface of the dielectric layer 120. The spaces between the interconnects are filled with a xerogel 142, which may include recesses at the top of the xerogel 142 as shown in Fig. 1(g). A layer of hydrogen silsesquioxane (HSQ) 144 is then deposited on top of the layer 142 and in the recesses, as shown in Fig. 1(g). An additional dielectric layer 146 is then applied on top of the HSQ layer 144. However, Lu et al. **does not** teach that the dielectric 146 is present within the recesses between the interconnects. Furthermore, Lu et al. does not specify that this dielectric 146 *must* be the same dielectric as used in dielectric 120, as is required by the present invention. Thus, it is urged that Lu et al. fails to teach the requirement of "an additional layer of the first polymeric dielectric

material on at least some of the metal contacts and *in the recesses* on the filled spaces of the second *polymeric dielectric material*".

Lu et al. further fails to teach first and second dielectric materials which have substantially different etch resistant properties, for the formation of vias and trenches. Lu et al. also does not teach that the second dielectric material which is in contact with the metal contacts and with the first dielectric material. Rather, the oxide layer 140 forms a barrier over the interconnects 130 and the dielectric 120.

Applicants urge that the absence of these key features of the present invention from the cited reference renders the present invention patentably distinct from Lu et al. Thus, it is respectfully urged that the 35 U.S.C. 102 rejection is improper and should be withdrawn.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,

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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office (FAX No. 703-308-7722) on January 6, 2003.

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